ABSTRACT

[Abstract of the Disclosure]

A MEMS device having flexure elements with non-linear restoring force. The MEMS device has a substrate, support elements formed on the substrate, a moveable element positioned over the substrate by the support elements to move relative substrate, flexure elements for elastically suspending the moveable element on the support elements, a driving element for moving the moveable element, and repulsive elements for increasing the repulsive force of the flexure elements when the flexure elements supporting the moveable element are resiliently deformed during movement of the moveable element. In a MEMS device, the range of controlling the position of a moveable element is extended if flexure elements having non-linear repulsive force control the position of the moveable element. A restoring force is obtained by flexure elements having non-linear repulsive force and the moveable element is prevented from sticking. The MEMS device has much higher reliability than a general MEMS device.

[Representative Drawing]

FIG. 6